What we claim is,

1. A chamfered freestanding nitride semiconductor wafer having an edge of roughness between Ra10nm and Ra5μm.

2. The nitride semiconductor wafer according to claim 1, wherein the nitride semiconductor is gallium nitride (GaN).

3. The nitride semiconductor wafer according to claim 1, wherein the roughness of the edge ranges from Ra10nm to Ra1μm.

4. The nitride semiconductor wafer according to claim 3, wherein the nitride semiconductor is gallium nitride (GaN).

5. The nitride semiconductor wafer according to claim 1, wherein the roughness of the edge ranges from Ra10nm to Ra0.1μm.

6. The nitride semiconductor wafer according to claim 5, wherein the nitride semiconductor is gallium nitride (GaN).

7. A method of chamfering nitride semiconductor wafer comprising the steps of:

preparing a soft whetting apparatus having a long continually-fed elastic matrix and whetting granules implanted on the matrix;

bringing the elastic matrix into inscribing contact with an edge of the circular nitride wafer at a pressure;

supplying the matrix with a whetting liquid which is powderless water, powderless oil, powder including water, or powder including oil;

rotating the nitride wafer in the inscribing contact with the elastic matrix;

feeding the elastic matrix at a constant speed or varying speeds; and

abrading the edge of the wafer by the granules implanted on the soft

matrix into edge roughness of Ra5μm to Ra10nm.

8. The method according to claim 7, wherein the continually-fed elastic matrix is a tape and the whetting granules are implanted on the tape.

9. The method according to claim 8, wherein the granules implanted on the tape have sizes from #300 to #5000.

10. The method according to claim 8, wherein the feeding speed of the tape is 5mm/min to 60mm/min.

11. The method according to claim 10, wherein the chamfering method includes three steps, a first step uses a whettape of #300 to #1000, a second step uses another whettape of #1000 to #2500 and a third step uses another whettape of #2500 to #5000.

12. The method according to claim 11, wherein the first step employing a whettape of #800 produces an edge of roughness of Ra0.9μm, the second step employing a whettape of #2000 produces an edge of roughness of Ra0.3μm and the third step employing a whettape of #3000 produces an edge of roughness of Ra0.1μm.

13. The method according to claim 8, wherein the pressure acting between the wafer edge and the whettape is 1kg/cm^2 to 10kg/cm^2.

14. The method according to claim 8, wherein the whetting granules fixed on the tape are silicon carbide (SiC), alumina (Al_2O_3), diamond (C) or silica (SiO_2).

15. The method according to claim 14, wherein the liquid includes granules of silicon carbide (SiC), alumina (Al_2O_3), diamond (C) or colloidal silica (SiO_2).

16. The method according to claim 8, wherein the whettape is made of

cloths, polyurethane, leather, rubber, or paper.

17. The method according to claim 8, wherein the contact between the wafer edge and the whettape has a wide angular area of 40 degrees to 90 degrees as a central angle of the wafer.

18. The method according to claim 7, wherein the nitride semiconductor wafer to be chamfered is gallium nitride (GaN).

19. The method according to claim 7, wherein the nitride semiconductor wafer to be chamfered is indium nitride (InN).

20. The method according to claim 7, wherein the nitride semiconductor wafer to be chamfered is aluminum nitride (AlN).